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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Paper No. 011404

Application Number: 09/610,586

Filing Date: January 15, 2004

Appellant(s): SPINO, Larry A.

Nirav Patel  
For Appellant

**EXAMINER'S ANSWER**

**MAILED**

**FEB 13 2004**

**GROUP 1700**

This is in response to the appeal brief filed November 18, 2003.

**(1) *Real Party in Interest***

A statement identifying the real party in interest is contained in the brief.

**(2) *Related Appeals and Interferences***

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

**(3) *Status of Claims***

The statement of the status of the claims contained in the brief is correct.

The appeal involves claims 1-9.

**(4) *Status of Amendments After Final***

The Appellant's statement on the status of amendments after final rejection contained in the brief is correct. All amendments have been entered, and there are no other pending or outstanding amendments.

**(5) *Summary of Invention***

The summary of invention contained in the brief is correct.

**(6) *Issues***

The issues presented on appeal are:

1) In view of Appellants' Appeal Brief filed November 18, 2003, the rejection of Claim 3 under 35 U.S.C. 112, first paragraph, is withdrawn.

2) Whether claims 1-2, 5-8 have been properly rejected under 35 U.S.C. 103(a) as being unpatentable over McCullough et al. (WO 00/12605) in view of Ushioda et al. (US 6,410,662 B1)?

3) Whether claims 3 has been properly rejected under 35 U.S.C. 103(a) as being unpatentable over McCullough et al. (WO 00/12605) in view of Ushioda et al. (US 6,410,662 B1) and further in view of Masino (US 5,182,341)?

4) Whether claims 1 and 4 have been properly rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi et al. (US 6,238,615 B1)?

5) Whether claim 9 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi et al. (US 6,238,615 B1) in view of Ushioda et al. (US 6,410,662)?

**(7) *Grouping of Claims***

Claims 1-9 of the subject patent application stand or fall together.

**(8) *ClaimsAppealed***

Claims 1-9

**(9) *Prior Art of Record***

McCullough et al. (WO 00/12605)

Ushioda et al. (US 6,410,662 B1)

Masino (US 5,182,341)

Kobayashi et al. (US 6,238,615 B1)

**(10) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 103***

**(11)** The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

**(12)** Claims 1-2, 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over McCullough et al. (WO 00/12605) in view of Ushioda et al. (US 6,410,662 B1).

*The invention of claims 1-2, 5-8 relates to a **composition**, free of phenolic antioxidant, containing a) **100 parts by weight of a propylene polymer**, b) from **0.005 to 0.1 part (~50 ppm to 1000 ppm) by weight of an amine oxide having structural formula (I)** as disclosed in claim 1, wherein **R' and R'' are groups containing from 1 to 36 carbon atoms**, or of a **N, N-dialkylhydroxylamine of formula R<sup>1</sup> R<sup>2</sup> N-OH (II)**, wherein **R<sup>1</sup> and R<sup>2</sup> are independent groups of 1 to 36 carbon atoms**, c) from **0.1 to 0.5 part by weight of a clarifying agent** which is defined in Appellants' specification (page 4, line 7-25).*

McCullough et al. (page 11, last paragraph; page 12, Table 1) in examples 4-6 disclose polypropylene compositions containing no phenolic antioxidant. McCullough et al. in Table 1 also disclose examples 4-6 containing 500 ppm of bis(hydrogenated tallow alkyl (C<sub>16</sub>-C<sub>18</sub>) hydroxylamine (FS042). Although Table 1 does not show the ppm units on the hydroxylamine added, McCullough et al. (page 6, line 11-15) clearly indicates that the hydroxylamine is to be added in the range of 50 ppm to 5000 ppm, preferably in the range of 200 ppm to 1000 ppm. Therefore, one of ordinary skill in the art would immediately recognize that the units in Table 1 are in ppm. In the specification (page 4, last paragraph), McCullough et al. indicate that the disclosed polypropylene is a random copolymer containing up to 5-weight % of ethylene comonomer.

Regarding claim 8 which claims using a hindered amine in the composition, McCullough et al. (page 8, paragraph 5) clearly suggest using light absorbers such as hindered amine as part of the stabilization package.

Therefore, the difference between the disclosure to McCullough et al. and the present invention is that McCullough et al. are silent on using a clarifying agent in the disclosed composition.

Ushioda et al. (col. 15, line 7-18) disclose the benefits of using nucleating agents, benzylidene sorbitol (col. 16, line 5-31) and aluminum hydroxy-bis[2,2'-methylene-bis(4,6-di-tert-butylphenyl)phosphate] as a nucleating agent (col. 15, line 50) to improve the transparency (clarity) of polypropylene. Therefore, motivated by the expectation of success of improving the rigidity, heat-resisting property and transparency of polypropylene (col. 15, line 9-12), it would have been obvious to one of ordinary skill in the art to use the teachings of Ushioda et al. which teach using a nucleating agent such as benzylidene sorbitol and aluminum hydroxy-bis[2,2'-methylene-bis(4,6-di-tert-butylphenyl)phosphate] compounds to improve transparency into the disclosure to McCullough et al. to obtain the invention of claims 1-2, 5-8.

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(13) Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over McCullough et al. (WO 00/12605) in view of Ushioda et al. (US 6,410,662 B1) and further in view of Masino (US 5,182,341).

McCullough et al. (page 11, last paragraph; page 12, Table 1) in examples 4-6 disclose polypropylene compositions containing no phenolic antioxidant. McCullough et al. in Table 1 also disclose examples 4-6 containing 500 ppm of bis(hydrogenated tallow alkyl (C<sub>16</sub>-C<sub>18</sub>) hydroxylamine (FS042). Although Table 1 does not show the ppm units on the hydroxylamine added, McCullough et al. (page 6, line 11-15) clearly indicates that the hydroxylamine is to be added in the range of 50 ppm to 5000 ppm, preferably in the range of 200 ppm to 1000 ppm. Therefore, one of ordinary skill in the art would immediately recognize that the units in Table 1 are in ppm. In the specification (page 4, last paragraph), McCullough et al. indicate that the disclosed polypropylene is a random copolymer containing up to 5-weight % of ethylene comonomer.

The difference between the disclosure to McCullough et al. and the present invention is that McCullough et al. are silent on using a clarifying agent in the disclosed composition and silent on using a propylene polymer having from 100 mg (0.01 ppm) to 500 mg (0.05 ppm) of inorganic residue per kg of propylene polymer.

Ushioda et al. (col. 15, line 7-18) disclose the benefits of using nucleating agents, benzylidene sorbitol (col. 16, line 5-31) and aluminum hydroxy-bis[2,2'-methylene-

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bis(4,6-di-tert-butylphenyl)phosphate] as a nucleating agent (col. 15, line 50) to improve the transparency (clarity) of polypropylene. Therefore, motivated by the expectation of success of improving the rigidity, heat-resisting property and transparency of polypropylene (col. 15, line 9-12), it would have been obvious to one of ordinary skill in the art to use the teachings of Ushioda et al. which teach using a nucleating agent such as benzylidene sorbitol and aluminum hydroxy-bis[2,2'-methylene-bis(4,6-di-tert-butylphenyl)phosphate] compounds to improve transparency into the disclosure to McCullough et al. to obtain the invention of claim 3.

Further, regarding the polypropylene composition of McCullough et al., McCullough et al. (abstract) indicate that the polypropylene used in the composition is a high melt flow polypropylene. Since Masino (col. 12, line 15-40) indicate that the preparation of a high melt flow polypropylene requires an amount of inorganic catalyst materials for carrying out the polymerization process, Masino (col. 12, line 15-40) clearly indicates that a propylene polymer such as the high melt flow polypropylene of McCullough would also contain a specific amount of inorganic residue. Therefore, in view of the disclosures to McCullough et al. and Masino, the propylene polymer of McCullough et al. generically include the propylene polymer of Appellants' claim 3. Since Appellants' specification does not indicate the criticality of the claimed inorganic residue range, the rejection set forth is proper. To obtain a valid invention, Appellants must demonstrate the criticality of the instant invention with comparative experimental data to show the criticality of the claimed 100 mg to 500 mg range of inorganic residue.

(14) Claims 1, 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi et al. (US 6,238,615 B1).

Kobayashi et al. (col. 9, line 40-67) disclose a polyolefin molding composition containing a propylene copolymer having 50 wt % or more of propylene (col. 9, line 67) and a comonomer that can be ethylene (col. 10, line 7). Kobayashi et al. (col. 41-50) indicates using 0.05 to 7 wt % of nucleating agent (DBS), preferably 0.2 to 2.0 wt % in the resin. DBS denotes dibenzylidene sorbitol compounds (col. 1, line 14-15) as nucleating agents (col. 2, line 18). Further, Kobayashi et al. (col. 6, line 60) suggest using a surfactant in the molding composition. In a list of suitable surfactant suggested (col. 7, line 37), Kobayashi et al. clearly suggest using C<sub>7</sub>-C<sub>22</sub> amine oxides in the molding composition. Although Kobayashi et al. (col. 11, line 67) disclose that the molding composition may contain other additives such as a stabilizer, Kobayashi et al. do not suggest one of ordinary skill in the art must use a stabilizer, especially pertaining to a phenolic antioxidant. Therefore, it would have been obvious to one of ordinary skill in the art to recognize that a phenolic antioxidant is not a critical component in the disclosed molding composition. Although Kobayashi et al. (col. 14, line 53-54) in example 1 disclose using Irganox 1010 which is a phenolic based antioxidant, in re Nehrenberg 126 USPQ 383, Appellants must recognize that a reference used in a rejection is not restricted to its preferred embodiment. As long as the broad teachings of

Kobayashi et al. do not discourage one of ordinary skill in the art not to use a phenolic-based antioxidant, the rejection set forth is proper.

The difference between the disclosure of Kobayashi et al. and the invention of claims 1, 4, is that Kobayashi et al. are silent on using the disclosed inventive features in a single embodiment.

However, because Kobayashi et al. (col. 1, line 5-10) suggest that the disclosed molding composition capable of giving molded articles having high rigidity and high surface gloss, it would have been obvious to one of ordinary skill in the art to use all the teachings in Kobayashi et al. and assemble the disclosed features into a single embodiment to obtain the invention of claim 1, 4.

(15) Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi et al. (US 6,238,615 B1) in view of Ushioda et al. (US 6,410,662 B1).

*The composition disclosed in Kobayashi et al. and the composition being claimed are substantially similar.*

The difference between the invention of claim 9 and the disclosure to Kobayashi et al. is that Kobayashi et al. are silent on using a phosphate in the composition.

Ushioda et al. (col. 15, line 7-18) disclose the benefits of using nucleating agents, benzylidene sorbitol (col. 16, line 5-31) and aluminum hydroxy-bis[2,2'-methylene-bis(4,6-di-tert-butylphenyl)phosphate] as a nucleating agent (col. 15, line 50) to improve the transparency (clarity) of polypropylene films. In view of the disclosed nucleating agents in Ushioda et al., the sorbitol and phosphate based nucleating agents are functional equivalent as nucleating agents. Therefore, in re Dillon, 919 F.2d at 692, 16 USPQ2d at 1900., it would have been obvious to one of ordinary skill in the art to replace the disclosed sorbitol-based nucleating agent with a phosphate-based nucleating agents after reading the disclosure to Ushioda et al. to obtain the invention of claim 9 with a reasonable degree of expectation of success.

### **Response to Argument**

Since claims 1-9 of the subject patent application stand or fall together, the examiner will address the patentability of claim 1.

.....

Regarding the claimed “clarifying agent” of claim 1, the examiner has taken the position that the claimed “clarifying agent” of claim 1 and the recited “nucleating agent” in McCullough and in Kobayashi are equivalent terms because they both terms share

the same function of improving the transparency of a polyolefin product. In view of lack of argument in Appellants' prior responses the differences in terminology, the examiner believes that the equivalence of the claimed "clarifying agent" and the recited "nucleating agent" is proper.

.....

Appellant's arguments in Appeal Brief filed November 18, 2003 have been fully considered but they are not persuasive.

Appellants argue that claim 1 is distinguishable from the composition recited in McCullough et al. because claim 1 recites a composition free or essentially free of phenolic antioxidant while McCullough et al. (page 7, par. 2, line 8-9) recite "antioxidants which may be most useful in the compositions of the present invention include primary antioxidants of phenolic type". Therefore, Appellants conclude that the combination of prior art Ushioda et al. and McCullough et al. is improper and do not render the present invention obvious because the invention of McCullough et al. is distinguishable from the invention of claim 1.

Nevertheless, the examiner disagrees because McCullough et al. clearly recite "antioxidants which may be most useful in the compositions of the present invention include primary antioxidants of phenolic type.....". Although Appellants argue that tris(2,4-di-tert-butylphenyl) phosphite is a phenolic based antioxidant because of its

"phenyl" constituents, Appellants must recognize that the recitation "may be" in McCullough et al. does not teach one of ordinary skill in art must use an antioxidant of its core teachings. Instead, McCullough et al. merely suggest that the disclosed composition may also contain additives generally termed stabilizers, and antioxidants. Therefore, the examiner has a reasonable basis to believe that the teachings of McCullough et al. as a whole teach an invention that does not require an antioxidant or "free of antioxidant". McCullough et al. as a whole clearly teach an invention that optionally (may) includes an antioxidant.

The examiner also recognizes that McCullough et al. have indicated preferable teachings that include antioxidants in a composition in the working examples. However, in re Nehrenberg 126 USPQ 383, Appellants must recognize that a reference used in a rejection is not restricted to its preferred embodiment. In re Boe, 148 USPQ 507 (CCPA 1966), it is well settled that the reference is not limited to the preferred embodiments. In re Merc & Co v. Biocraft Labs, Inc., 874 F 2d 804,807 10 USPQ 2nd 1843, 1846 (Fed. Cir.), it is well settled that an applied reference may be relied upon for all that it would have reasonably suggested to one of the ordinary skill in the art, including not only preferred embodiments, but less preferred and even non-preferred. Therefore, as long as the broad teaching of McCullough et al. (page 7, par. 2, line 8-9) does not discourage one of ordinary skill in the art not to use an antioxidant, the rejection set forth is proper.

Further, regarding Appellants' argument that Kobayashi et al. (col. 14, line 53-54) in example 1 disclose using Irganox 1010 teach away from the invention of claim 1 which is free or essentially free of phenolic antioxidant, Kobayashi et al. (col. 11, lines 66-68; col. 7, line 1-3) clearly recite that the present invention may contain other additives such as stabilizers, neutralizing agents, antistatic agents, lubricants, etc. ... and that these known additive may be used in combination, insofar as they do not adversely affect the effects of the invention. Although Appellants further argue that Kobayashi et al. have included working examples 2-6 also involves the procedure of example 1, however, in re Nehrenberg 126 USPQ 383, Appellants must recognize that a reference used in a rejection is not restricted to its preferred embodiment. In re Boe, 148 USPQ 507 (CCPA 1966), it is well settled that the reference is not limited to the preferred embodiments. In re Merc & Co v. Biocraft Labs, Inc., 874 F 2d 804,807 10 USPQ 2nd 1843, 1846 (Fed. Cir.), it is well settled that an applied reference may be relied upon for all that it would have reasonably suggested to one of the ordinary skill in the art, including not only preferred embodiments, but less preferred and even non-preferred. As long as the broad teaching of Kobayashi et al. (col. 11, lines 66-68; col. 7, line 1-3) does not discourage one of ordinary skill in the art not to use a phenolic- based antioxidant, the rejection set forth is proper.

Regarding Appellants' argument that the claimed invention does not include a recitation of a high melt flow polypropylene with a specific melt flow as in claim 1,

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applicants fail to recognize that the recitation "a propylene polymer" of claim 1 generically includes the propylene polymer of McCullough et al. as well.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,



William K. Cheung

February 4, 2004

Conferees

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